

BIOLOGICAL OPINION

Reasonable and Prudent Measures

The Service believes the following RPMs are necessary and appropriate to minimize take of the Yuma clapper rail:

1. Operations and maintenance actions by Reclamation must result in no net loss of Yuma clapper rail habitat, otherwise rails will be taken due to loss of nesting habitat. Disturbance of rails and rail habitat must be minimized. If areas are affected, they must be restored or replaced.
2. Subject to the limitations of the RPA for the bonytail chub, razorback sucker, and the southwestern willow flycatcher (which take precedence over this provision), dredging to maintain wetland and backwaters to offset succession and to benefit clapper rails must be continued (see **Table 15**, above) as part of Reclamation's annual maintenance program on the Colorado River.

Proposed species:

The prohibitions against taking a species found in section 9 of ESA do not apply until the species is listed. However, the Service advises Reclamation to consider implementing the following reasonable and prudent measures. If this conference opinion is adopted as a biological opinion following a listing or designation, these measures, with their implementing terms and conditions, will be nondiscretionary.

Flat-tailed Horned Lizard

The Service believes that the following RPMs are necessary and appropriate to minimize the incidental taking authorized by this conference opinion. If the species is listed, then the incidental take statement in this opinion, including its protection against a section 9 violation, will apply only to the proposed action.

1. Worker education programs and procedures shall be implemented to avoid or minimize the take of flat-tailed horned lizards resulting from operation and maintenance of the project facilities.
2. Reclamation shall monitor incidental take resulting from the proposed action and report to the Service the findings of that monitoring.

TERMS AND CONDITIONS

Listed species:

Bonytail Chub and Razorback Sucker

In order to be exempt from the prohibitions of section 9 of the ESA, Reclamation must comply with the following terms and conditions, which implement the RPMs described above. These

terms and conditions are non-discretionary.

To implement RPM 1 (Stranding):

1. Reclamation will evaluate the amount of spawning and nursery habitat that would be exposed by water level fluctuations in riverine areas in the January through May period. The amount of such habitat available to fish depends upon the actual total amount of water released and the daily fluctuations in the release. The amount of potential spawning and nursery habitat (i.e., habitat that would be under water at the highest daily flow), will vary over the five month period and the Service and Reclamation will have to evaluate this variance. Once the evaluation is completed, the possibilities to reduce such exposures will be examined. The evaluation, based over the first January through May period following issuance of the final BO, must include, at a minimum, a delineation of affected areas, an estimate of population size for the endangered fish species in affected areas, the extent of discretion in water releases available to each area, and the potential benefits to non-native fish species from either maintaining or altering the current system.
2. The evaluation in term number 1, above, will be completed by October 1 following the first January to May evaluation period after the date of the final BO and shall be provided to the Service and the MSCP Steering Committee. Reclamation will have until the next January to put in place alternatives that are reasonable, prudent, and environmentally feasible that will minimize effects to bonytail chub and razorback suckers; if needed, Reclamation will seek agreements from necessary parties to implement this term.

To implement RPM 2 (Dams):

1. Reclamation will determine, using surrogate measures or species, modeling, and other appropriate risk analyses, the current potential for bonytail chub and razorback sucker to pass through turbines at each of the LCR hydroelectric generating dams. Once the risk determination is complete, Reclamation will evaluate potential changes to existing management that would reduce passage of fish through each dam's turbines. The assessment will be completed within one year of the date of the final BO and the evaluation of management alternatives will be completed within another 120 days. These assessments and evaluations will be discussed with interested parties involved in the MSCP process, and both the assessments and evaluations will be provided to the MSCP Steering Committee and the Service.
2. Reclamation will implement those alternatives, if any, that reduce the risk of fish passage and are economically, technologically, and environmentally feasible, within one year of the date of the completed risk determination.
3. Reclamation will provide reports documenting determinations and decisions made in terms number 1 and 2, above, to the Service and the MSCP Steering Committee.
4. In the event that incidental take is exceeded, within seven (7) days Reclamation will provide the Service with a report on where, why and how this excess occurred. At the

time of the report, Reclamation and the Service will convene a meeting to address a method(s) for avoiding further take expected to occur during the remaining period covered by this consultation. Such determination(s) shall be implemented as appropriate. Should an individual of either species be found showing signs of having passed through a dam, Reclamation will contact the Service within 48 hours.

To implement RPM 3 (Entrainment):

1. Reclamation will evaluate all diversions (to canals or pipelines) for their potential to remove fish from the system. Diversions that allow for access into and out of the system will be evaluated for the potential of such movements of fish. This will be completed and a report provided to the Service within one year of the date of the final BO.
2. Management programs for all accessible canals will be examined by Reclamation in consultation with the affected water rights or contract holders to determine if present management encourages or discourages fish residency in the canal system. Reclamation will work with canal owners to develop monitoring programs to locate listed fish. This task will be completed and a report provided to the Service within 18 months of the date of the final BO.
3. Reclamation will work with appropriate Federal and non-Federal parties to research appropriate technologies to prevent fish entrainment into canals or pipelines from which return to the system is unlikely. If economically, technologically, and environmentally sound methods exist to reduce the potential for fish to access these canals or pipelines, Reclamation will work with the owners of the facilities to incorporate such methods into each facility within five years of the date of the final BO. A report detailing each decision herein will be provided to the Service and the MSCP Steering Committee before the end of the five year consultation period.

Because of the need for Reclamation to obtain cooperation and assistance from outside parties who own or operate facilities or have water or power contracts on the LCR (and therefore additional discretion) in meeting the terms and conditions of these RPMs, the Service believes that there is no guarantee that the level of incidental take will be reduced in the short-term as a result of these terms and conditions. However, Reclamation is required to use all of its appropriate discretionary authority alone if cooperation is not forthcoming. Cooperation with Reclamation by water and power users could address a portion of the take of these species that can be attributed to those users. Cooperation with Reclamation on the terms and conditions in this incidental take statement does not address the entire issue for these parties, but could provide some assurances as far as incidental take by them. In order to document the progress of these terms and conditions and cooperative or non-cooperative activities of outside parties, the Service will require Reclamation to provide informal briefings to the Service at least twice annually during the five year period covered by this consultation.

Southwestern Willow Flycatcher

In order to be exempt from the prohibitions of section 9 of the ESA, Reclamation must comply

with the following terms and conditions, which implement the RPMs described above. These terms and conditions are non-discretionary. Implementation of the following terms and conditions may reveal additional information that will help to better define the extent of take and additional measures to reduce it. If that occurs, Reclamation may need to request a modification of this BO from the Service to address this new information.

To implement RPM 1 (Habitat Protection):

1. Reclamation will protect occupied flycatcher habitat regardless of plant species composition, and unoccupied, but potential flycatcher habitat, including stands of willow, cottonwood-willow, and mixtures of saltcedar and cottonwood-willow in all portions of the LCR under Reclamation management; provided that this term shall not be interpreted to require protection of saltcedar when its removal would actually result in improved flycatcher habitat, but saltcedar removal should not occur in an extant or recently-extant flycatcher location. Protection actions will include but not be limited to cowbird trapping in and near occupied habitat, fire breaks, and measures such as levee road closures to limit recreational disturbance of occupied sites.
2. In areas not under Reclamation management:
 - a. Reclamation will immediately develop agreements with appropriate land management agencies along the LCR to implement a cowbird trapping program in the specific area(s) where cowbird parasitism rates have been monitored for one year from the date of the final BO and parasitism rates exceed 10% at any LCR site. Reclamation will continue trapping at the specific area(s) during the five year consultation period or until alternative means of reducing take have been negotiated with the Service.
 - b. Reclamation will develop agreements with appropriate land management agencies along the LCR to put in and maintain fire breaks to protect occupied or potential southwestern willow flycatcher habitat from wildfire within one year of the date of the final BO.
 - c. Reclamation will develop agreements with appropriate land management agencies along the LCR to close levee roads and put in place and enforce other public closures necessary to minimize impacts to southwestern willow flycatcher habitat from fire and disturbance within one year of the date of the final BO.
3. Reclamation will initiate a public information program within one year of the date of the final BO to alert resource users about the dangers of wildfire to riparian habitat.

To implement RPM 2 (Surveys and Monitoring):

1. Reclamation will conduct additional status surveys of all occupied and potential southwestern willow flycatcher habitat on the LCR over the next five years and a representative sample each year after that, or until alternative means of reducing take have

been negotiated with the Service to determine the number of flycatcher territories, the number of breeding pairs, the breeding status of pairs, cowbird parasitism rates, predation rates, nest success, biotic and abiotic habitat relationships of occupied sites, and the genetic relationships of flycatchers throughout the LCR for comparison with genetic data obtained from flycatchers breeding at Roosevelt Lake and the San Pedro River, Arizona. Reclamation will deliver a report of the findings to the Service annually, by December 1.

2. Reclamation will determine the effectiveness of the fire break and recreational access measures by monitoring location, size, and timing of fires on the LCR. Such monitoring will include acquisition of both ground and aerial color transparencies of all occupied or potential southwestern willow flycatcher habitat areas that are burned, partially or completely by fire. A yearly report, due September 30 each year, will be provided to the Service and will include photographs described above, a summary of the fire activity over that period, the amount of southwestern willow flycatcher habitat affected, effectiveness of closures and fire breaks, and recommendations for the coming year that can be transmitted to other agencies..

Yuma Clapper Rail

In order to be exempt from the prohibitions of section 9 of the ESA, Reclamation must comply with the following terms and conditions, which implement the RPMs described above. These terms and conditions are non-discretionary.

To implement RPM 1 (Habitat Protection):

1. All clapper rail habitat areas destroyed or degraded due to future project activities shall be restored by the action agency.
2. This restoration shall be implemented as part of the scheduled project activity and completed within one year of the action.
3. Reclamation will develop/update and begin to implement rail management plans for areas under its management that currently or potentially support Yuma clapper rails within one year of the date of the final BO. These plans shall include management protocol for operations and maintenance activities that need to occur within or near rail habitat. These activities can be expanded in future years as part of the MSCP.
4. Where there is discretion regarding the scheduling of activities (such as non-emergency work or activities that are not constrained seasonally) in or near rail habitat, the clapper rail nesting season (March 15-July 10) will be avoided.

To implement RPM 2 (Dredging):

1. Subject to the limitations outlined in the RPA for the bonytail chub, razorback sucker, and the southwestern willow flycatcher, Reclamation will continue to maintain all mitigation backwaters and will work with all resource agencies on a cost share basis to maintain other backwaters. These backwaters will contain areas suitable for Yuma clapper rail habitat.

Proposed species:**Flat-tailed Horned Lizard**

The following terms and conditions are established to implement the RPMs described above. If the species is listed, implementation of these terms and conditions will be mandatory.

To implement RPM 1 (Worker Education):

1. All personnel who implement the proposed action shall be briefed on the biology and status of the flat-tailed horned lizard, protection measures designed to reduce potential impacts to this species, and reporting procedures to be used if flat-tailed horned lizards are encountered in the field. Personnel shall be advised that handling of flat-tailed horned lizards by anyone is prohibited by State law without a permit.
2. Reclamation shall implement standard mitigation measures for the flat-tailed horned lizard detailed in the *Flat-tailed Horned Lizard Rangewide Management Strategy* for work in flat-tailed horned lizard habitat.
3. No ground-disturbing maintenance activities shall occur within the context of this conference. Any ground-disturbing activities are outside the project description herein and will require additional site-specific section 7 compliance.

To implement RPM 2 (Monitoring):

1. At the end of each calendar year, Reclamation will submit a monitoring report to the Arizona Ecological Services Field Office. The report shall include numbers and locations of flat-tailed horned lizards encountered; and numbers of flat-tailed horned lizards killed, injured, moved, or otherwise taken as a result of activities authorized by this conference opinion. The report will also make recommendations for modifying or refining the terms and conditions stipulated herein to enhance flat-tailed horned lizard protection or to reduce needless hardship on Reclamation.
2. Reclamation will work with the Marine Corps Air Station - Yuma, the Bureau of Land Management, Arizona Game and Fish Department and other entities to support research necessary to: 1) improve our knowledge of the ecology and life history of the flat-tailed horned lizard, particularly in regards to demographic parameters needed to better understand population dynamics and viability; and, 2) determine the relationship between scat/lizard counts and lizard densities.

Review requirement: The RPMs, with their implementing terms and conditions, are designed to **minimize** incidental take that might otherwise result from the proposed action. With implementation of these measures, the Service believes that:

1) Because of the difficulty in detectability or measurement, a minimized level of take for bonytail chub and razorback sucker cannot be identified. If the RPMs are implemented, no more than the numbers identified, or the surrogate measures, determined to represent the level of incidental take under provisions (2)(a)-Stranding, (2)(b)-Dams, and (2)(c)-Entrainment, of the Amount or Extent of Take section for bonytail chub and razorback sucker, will be incidentally taken.

2) Because of the difficulty in detectability or measurement, a minimized level of take for the southwestern willow flycatcher cannot now be completely identified. The survey and monitoring requirements identified in the RPA, the RPMs, and the terms and conditions will enable monitoring of take throughout the LCR. If the RPMs are implemented, take of flycatchers due to nest predation is not to exceed 50%. Incidental take will have been exceeded if more than 50% of flycatcher nests are depredated during any one breeding season. Additionally, take of flycatchers due to cowbird parasitism is not to exceed 25%. Incidental take will have been exceeded if more than 25% of flycatcher nests contain one or more cowbird eggs during any one breeding season.

3) An unknown, but minimized, number of Yuma clapper rails will be incidentally taken and the Service will consider that the incidental take level has not been exceeded if the Yuma clapper rail RPMs are implemented.

4) No more than **four (4)** flat-tailed horned lizards per year will be incidentally taken resulting from direct mortality due to crushing of lizards on roadways, routes, or project sites.

If, during the course of the action, these minimized levels of incidental take are exceeded, such incidental take would represent new information requiring reinitiation of consultation. Reclamation must immediately provide an explanation of the causes of the taking(s) and review with the Service the need for possible modification of the RPMs along with the reinitiation request.

DISPOSITION OF DEAD, INJURED, OR SICK INDIVIDUALS OF A LISTED SPECIES

If a dead, injured, or sick individual of a listed species is found in the action area, initial notification must be made to Service Law Enforcement, Federal Building, Room 105, 26 North McDonald, Mesa, Arizona, 85201 (Telephone: 602/261-6443) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the finding, a photograph of the animal, and any other pertinent information. The notification shall be sent to Law Enforcement with a copy to the Arizona Ecological Services Field Office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. If possible, the remains shall be placed with educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above shall be obtained and the carcass left in place. Arrangements regarding proper disposition of potential museum specimens shall be made with the institution prior to implementation of the action. Injured animals should be transported to a qualified veterinarian by an authorized biologist. Should any treated animals survive, the Service shall be contacted regarding the final disposition of the animals. Although not